Chemical/Biological Terrorism
July, 2003

1: Acta Radiol. 2003 May;44(3):241-5.
High-resolution CT in chronic pulmonary changes after mustard gas exposure.
Bagheri MH, Hosseini SK, Mostafavi SH, Alavi SA.
Department of Radiology, Medical School, Shiraz University of Medical Siences, Iran. bagherih@sums.ac.ir
PURPOSE: To identify the findings of high-resolution CT (HRCT) of the lung in patients with previous sulfur mustard gas exposure, and to correlate these findings with clinical and chest X-ray (CXR) results. MATERIAL AND METHODS: 50 consecutive patients were studied prospectively. The clinical data were recorded. Standard p.a. CXR and HRCT of the lung and spirometry were performed. The findings of CXR, HRCT and clinical and spirometry results were scored between 0 and 3 according to the severity of the findings. RESULTS: HRCT abnormality was detected in all 50 patients (100%), while CXR was abnormal in 40 patients (80%). The most common HRCT findings was airway abnormalities (bronchial wall thickening in 100% of cases). Other important findings were suggestive of interstitial lung disease (ILD) (80%), bronchiectasis (26%), and emphysema (24%). A statistically significant correlation was found between the severity of clinical presentation and that of the HCTR scores in patients with
bronchiectasis, bronchitis and ILD ($p < 0.05$), but not with severity scores of HRCT in patients with emphysema. No significant correlation was found between severity scores of CXR findings. HRCT evidence of bronchial wall thickening and with a lower frequency ILD were present despite normal CXR in 20% of the patients. CONCLUSION: The results of this study suggest that bronchial wall thickening, ILD and emphysema are common chronic pulmonary sequelae of sulfur
mustard injury. HRCT of the chest should be considered as the imaging modality of choice in chemical war injury.
PMID: 12751992 [PubMed - indexed for MEDLINE]

2: Am J Pathol. 2003 Aug;163(2):701-9.
Pathology and pathogenesis of bioterrorism-related inhalational anthrax.
Guarner J, Jernigan JA, Shieh WJ, Tatti K, Flannagan LM, Stephens DS, Popovic T, Ashford DA, Perkins BA, Zaki SR; Inhalational Anthrax Pathology Working Group.
Infectious Diseases Pathology Activity, Division of Viral Rickettsial Diseases, Centers for Disease Control and Prevention, Atlanta, Georgia 30333, USA.

During October and November 2001, public health authorities investigated 11 patients with inhalational anthrax related to a bioterrorism attack in the United States. Formalin-fixed samples from 8 patients were available for pathological and immunohistochemical (IHC) study using monoclonal antibodies against the Bacillus anthracis cell wall and capsule. Prominent serosanguinous pleural effusions and hemorrhagic mediastinitis were found in 5 patients who died. Pulmonary infiltrates seen on chest radiographs corresponded to intraalveolar edema and hyaline membranes. IHC assays demonstrated abundant intra- and extracellular bacilli, bacillary fragments, and granular
antigen-staining in mediastinal lymph nodes, surrounding soft tissues, and pleura. IHC staining in lung, liver, spleen, and intestine was present primarily inside blood vessels and sinusoids. Gram's staining of tissues was not consistently positive. In 3 surviving patients, IHC of pleural samples demonstrated abundant granular antigen-staining and rare bacilli while transbronchial biopsies showed granular antigen-staining in interstitial cells. In surviving patients, bacilli were not observed with gram's stains. Pathological and IHC studies of patients who died of bioterrorism-related inhalational anthrax confirmed the route of infection. IHC was indispensable for diagnosis of surviving anthrax cases. The presence of B. anthracis antigens in the pleurae could explain the prominent and persistent hemorrhagic pleural effusions.
PMID: 12875989 [PubMed - in process]

3: Am J Public Health. 2003 Aug;93(8):1230-1235.
Innovative Surveillance Methods for Rapid Detection of Disease Outbreaks and Bioterrorism: Results of an Interagency Workshop on Health Indicator Surveillance.
Pavlin JA, Mostashari F, Kortepeter MG, Hynes NA, Chotani RA, Mikol YB, Ryan MA, Neville JS, Gantz DT, Writer JV, Florance JE, Culpepper RC, Henretig FM, Kelley PW.
Julie A. Pavlin, James V. Writer, Randall C. Culpepper, and Patrick W. Kelley are with the Department of Defense Global Emerging Infections System, Silver Spring, Md. Farzad Mostashari is with the New York City Department of Health. Mark G. Kortepeter is with the US Army Medical Research Institute of Infectious Diseases, Fort Detrick, Md. Noreen A. Hynes is with the Office of the Vice President, Public Health Service, Washington, DC. Rashid A. Chotani is with the Bloomberg School of Public Health, Johns Hopkins University, Baltimore, Md. Yves B. Mikol is with the New York City Department of Environmental Protection. Margaret A. K. Ryan is with the Naval Health Research Center, San Diego, Calif. James S. Neville is with the Air Force Institute for Environment, Safety and Occupational Health Risk Analysis, Brooks Air Force Base, Tex. Donald T. Gantz is with the Dept of Applied and Engineering Statistics, George Mason University, Fairfax, Va. Jared E. Florance is with the Prince William County Health District, Manassas, Va. Fred M. Henretig is with the Clinical Toxicology and
Poison Control Department, Children's Hospital of Philadelphia, Philadelphia, Pa.
A system designed to rapidly identify an infectious disease outbreak or bioterrorism attack and provide important demographic and geographic information is lacking in most health departments nationwide. The Department of Defense Global Emerging Infections System sponsored a meeting and workshop in May 2000 in which participants discussed prototype systems and developed recommendations for new surveillance systems. The authors provide a summary of the group's findings, including expectations and recommendations for new surveillance systems. The consensus of the group was that a nationally led effort in developing health indicator surveillance methods is needed to promote effective, innovative systems.
PMID: 12893601 [PubMed - as supplied by publisher]

4: Am J Transplant. 2003 Aug;3(8):909-12.
SARS, Xenotransplantation and Bioterrorism: Preventing the Next Epidemic.
Fishman JA.
Transplantation and Immunocompromised Host Program, Massachusetts General Hospital and Harvard Medical School, Boston, Massachusetts, USA, jfishman@partners.org
PMID: 12859521 [PubMed - in process]

5: Ann Hematol. 2003 Apr;82(4):223-7. Epub 2003 Mar 01.
Differential diagnosis of Fanconi anemia by nitrogen mustard and diepoxybutane.
Deviren A, Yalman N, Hacihanefioglu S.
Istanbul University, Cerrahpasa Medical Faculty, Genetics Department, Baharlibahce Sokak Kibris Apt No:17 Daire:14, 34740 Bakirkoy-Istanbul, Turkey. devirena@istanbul.edu.tr
Fanconi anemia (FA) is an autosomal recessive inherited disorder which is associated with a variety of congenital anomalies. These include morphometric abnormalities involving mainly the head and face, skeletal malformations particularly of the radial ray, growth retardation, abnormal skin pigmentation, deafness, and renal, ocular, genital, and cardiac defects. The cardinal clinical feature is a severe progressive pancytopenia. The overall aim of our study was to compare two different alkylating agents that would permit rapid and unequivocal detection of FA. A total of 271 patients underwent nitrogen mustard (NTM) and diepoxybutane (DEB) tests in our laboratory; baseline chromosomal
breakage was studied for all of them. After the results of the chromosomal breakage studies, 72 patients were diagnosed as affected and 136 patients as unaffected by FA. We also studied 63 family members of FA patients. According to our study, NTM seems more specific to identify chromosomal breakages in FA parents than DEB.
PMID: 12707724 [PubMed - indexed for MEDLINE]

6: Ann N Y Acad Sci. 2003 Jun;990:734-8.
Pathogenic rickettsiae as bioterrorism agents.
Azad AF, Radulovic S.
Department of Microbiology and Immunology, University of Maryland School of Medicine, 655 West Baltimore, Maryland 21201, USA. aazad@umaryland.edu
The diseases caused by rickettsiae vary from mild to severe clinical presentations, with case fatality ranging from none to over 30%. The severity of rickettsial diseases has been associated with age, delayed diagnosis, hepatic and renal dysfunction, central nervous system abnormalities, and pulmonary compromise. Despite the variability in clinical presentations many pathogenic rickettsiae cause debilitating diseases, any one of which could be used as a potential biological weapon. While Rickettsia prowazekii, R. rickettsii, and Coxiella burnetii pose serious problems and are currently considered bioterrorism agents, several other species could cause havoc once intentionally released into human populations. The complicating factors include misdiagnosis due to the similarity of rickettsial-induced clinical signs to many commonly occurring infections and subsequent delayed treatment. Vigilance, preparedness, and the availability of efficacious vaccines and antibiotics are required to avert the morbidity and mortality and disturbances generated by the intentional release of pathogenic rickettsiae into large and immunologically naive human populations. This presentation reviews the rickettsial attributes that make them potential bioterrorism agents, as well as issues related to signs that would alert the

responsible authorities, and the preventive measures that could reduce impact of these agents.
PMID: 12860715 [PubMed - in process]

7: Antiviral Res. 2003 Jan;57(1-2):113-9.
Nipah virus--a potential agent of bioterrorism?
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Nipah virus, a newly emerging deadly paramyxovirus isolated during a large outbreak of viral encephalitis in Malaysia, has many of the physical attributes to serve as a potential agent of bioterrorism. The outbreak caused widespread panic and fear because of its high mortality and the inability to control the disease initially. There were considerable social disruptions and tremendous economic loss to an important pig-rearing industry. This highly virulent virus, believed to be introduced into pig farms by fruit bats, spread easily among pigs and was transmitted to humans who came into close contact with infected animals. From pigs, the virus was also transmitted to other animals such as dogs, cats, and horses. The Nipah virus has the potential to be considered an agent of bioterrorism.
Publication Types: Review Review, Tutorial
PMID: 12615307 [PubMed - indexed for MEDLINE]

8: Antiviral Res. 2003 Jan;57(1-2):101-11.
Viruses of the Bunya- and Togaviridae families: potential as bioterrorism agents and means of control.
Sidwell RW, Smee DF.
Institute for Antiviral Research, Utah State University, Logan, UT 94322-5600, USA. rsidwell@cc.usu.edu
When considering viruses of potential importance as tools for bioterrorism, several viruses in the Bunya- and Togaviridae families have been cited. Among those in the Bunyaviridae family are Rift Valley fever, Crimean-Congo hemorrhagic fever, hanta, and sandfly fever viruses, listed in order of priority. Those particularly considered in the Togaviridae family are Venezuelan, eastern and western equine encephalitis viruses. Factors affecting the selection of these viruses are the ability for them to induce a fatal or seriously incapacitating illness, their ease of cultivation in order to prepare large volumes, their relative infectivity in human patients, their ability to be transmitted by aerosol, and the lack of measures available for their control. Each factor is fully considered in this review. Vaccines for the control of infections induced by these viruses are in varying stages of development, with none universally accepted to date. Viruses in the Bunyaviridae family are generally sensitive to ribavirin, which has been recommended as an emergency therapy for infections by viruses in this family although has not yet been FDA-approved. Interferon and interferon inducers also significantly inhibit these virus infections in animal models. Against infections induced by viruses in the Togaviridae family, interferon-alpha would appear to currently be the most useful for therapy.
PMID: 12615306 [PubMed - indexed for MEDLINE]

9: Antiviral Res. 2003 Jan;57(1-2):89-100.
Arenaviruses other than Lassa virus.
Charrel RN, de Lamballerie X.
Unite des Virus Emergents, EA 3292, IRD-UR 034, IFR 48, Faculte de Medecine, 27 boulevard Jean Moulin, Marseille 13005, France. virophdm@gulliver.fr
The family Arenaviridae includes 23 viral species, of which 5 can cause viral hemorrhagic fevers with a case fatality rate of about 20%. These five viruses are Junin, Machupo, Guanarito, Sabia and Lassa virus, the manipulation of which requires biosafety level 4 facilities. They are included in the Category A Pathogen List established by the Center for Disease Control and Prevention that groups agents with the greatest potential for adverse public health impact and mass casualties whether a situation characterized by a ill-intentioned abuse of natural or engineered arenavirus would be encountered. The aims of this article are to (i) summarize the current situation; (ii) provide information to help anticipating the effects to be expected in such a situation; and to (iii) emphasize the need for fundamental research to allow the development of diagnostic, prevention and therapeutic tools as countermeasures to weaponized arenaviruses.
Publication Types: Review Review, Tutorial
PMID: 12615305 [PubMed - indexed for MEDLINE]

10: Antiviral Res. 2003 Jan;57(1-2):7-12.
Smallpox: a potential agent of bioterrorism.
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AL 35233, USA. rwhitley@peds.uab.edu
The events of 11 September 2001, in New York City, and subsequent identification of anthrax in the United States Postal System, have generated a new sense of awareness for the potential of biological terrorism, if not warfare. Among those agents identified by the Centers for Disease Control and Prevention as 'Class A Bioterrorist Threats', smallpox is among the most dangerous. The ease of transmission of this agent, the lack of immunity in the population at large to this agent, and rapidity of its spread, if released, all generate significant concern for its deployment. A vaccine directed against smallpox is available but it is also associated with significant adverse events-some of which are life-threatening. Further, no antiviral drug has proven efficacious for therapy of human disease, although one licensed drug, cidofovir, does have in vitro activity. Regardless, heightened awareness should lead to the development of a vaccine without significant adverse events and safe and efficacious antiviral drugs. The availability of a vaccine and antiviral drugs that are safe would significantly remove any major threat of smallpox deployment by a terrorist.
Publication Types: Review Review, Tutorial
PMID: 12615298 [PubMed - indexed for MEDLINE]

11: Antiviral Res. 2003 Jan;57(1-2):1-5.
An overview on the use of a viral pathogen as a bioterrorism agent: why smallpox?
Mahy BW.
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Atlanta, GA 30333, USA. bxm1@cdc.gov
Publication Types: Review Review, Tutorial
PMID: 12615297 [PubMed - indexed for MEDLINE]

12: Antiviral Res. 2003 Jan;57(1-2):53-60.
Defense against filoviruses used as biological weapons.
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The filoviruses, Marburg and Ebola, are classified as Category A biowarfare agents by the Centers for Disease Control. Most known human infections with these viruses have been fatal, and no vaccines or effective therapies are currently available. Filoviruses are highly infectious by the airborne route in the laboratory, but investigations of African outbreaks have shown that person-to-person spread requires direct contact with virus-containing material. In consequence, filovirus epidemics can be halted by isolating patients and instituting standard infection control and barrier nursing procedures. The filovirus disease syndrome resembles that caused by other hemorrhagic fever viruses, necessitating studies in a biocontainment laboratory to confirm the diagnosis. Some progress has been made in developing vaccines and antiviral drugs, but efforts are hindered by the limited number of maximum containment laboratories. Terrorists might have great difficulty acquiring a filovirus for use as a weapon, but my attempt to do so because of the agents' ability to inspire fear. Accurate information is the best tool to prevent panic in the event of an attack.
Publication Types: Review Review, Tutorial
PMID: 12615303 [PubMed - indexed for MEDLINE]

13: Antiviral Res. 2003 Jan;57(1-2):121-7.
Hantavirus.
Clement JP.
Laboratory of Clinical and Epidemiological Virology, Department of Microbiology and Immunology, Rega Institute and Leuven University Hospitals, Kapucijnenvoer 33, BE-3000 Leuven, Belgium. jan.clement@uz.kuleuven.ac.be
When hantaviruses hit the headlines with the advent in May 1993 of a new disease in the USA, and later in the New World from Canada to south Argentina, called "hantavirus pulmonary syndrome" (HPS), speculations in the lay press rose from the very beginning around the possibilities of a biological warfare (BW) weapon. Indeed, the responsible agent of HPS, hantavirus, was almost unknown at that moment in the New World, was airborne, seemed to target preferentially young adults, and induced a devastating cardio-pulmonary collapse with a high case-fatality rate (50%), often within hours. It quickly became clear, however, that the same scourge had been known for many years in the Old World under different and mostly milder presentations. With the rapidly increasing knowledge about hantaviruses, it also became clear that they lack many of the potentials of an "ideal" BW weapon, as will be explained in this paper.
Publication Types: Review Review, Tutorial
PMID: 12615308 [PubMed - indexed for MEDLINE]

14: Antiviral Res. 2003 Jan;57(1-2):129-46.
Tick-borne encephalitis.
Gritsun TS, Lashkevich VA, Gould EA.
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Tick-borne encephalitis (TBE) is one of the most dangerous human infections occurring in Europe and many parts of Asia. The etiological agent Tick-borne encephalitis virus (TBEV), is a member of the virus genus Flavivirus, of the family Flaviviridae. TBEV is believed to cause at least 11,000 human cases of encephalitis in Russia and about 3000 cases in the rest of Europe annually. Related viruses within the same group, Louping ill virus (LIV), Langat virus (LGTV) and Powassan virus (POWV), also cause human encephalitis but rarely on an epidemic scale. Three other viruses within the same group, Omsk hemorrhagic fever virus (OHFV), Kyasanur Forest disease virus (KFDV) and Alkhurma virus (ALKV), are closely related to the TBEV complex viruses and tend to cause fatal hemorrhagic fevers rather than encephalitis. This review describes the clinical manifestations associated with TBEV infections, the main molecular-biological properties of these viruses, and the different factors that define the incidence and severity of disease. The role of ticks and their local hosts in the emergence of new virus variants with different pathogenic characteristics is also discussed. This review also contains a brief history of vaccination against TBE including trials with live attenuated vaccine and modern tendencies in developing of vaccine virus strains.
Publication Types: Historical Article Review Review, Tutorial
PMID: 12615309 [PubMed - indexed for MEDLINE]

15: Antiviral Res. 2003 Jan;57(1-2):147-50.
The potential use of influenza virus as an agent for bioterrorism.
Krug RM.
Section of Molecular Genetics and Microbiology, Institute for Cellular and Molecular Biology, University of Texas at Austin, 2500 Speedway, Austin, TX 78712, USA. rkrug@icmb.utexas.edu
Influenza A virus has been responsible for widespread human epidemics because it is readily transmitted from humans to humans by aerosol. Recent events have highlighted the potential of influenza A virus as a bioterrorist weapon: the high virulence of the influenza A virus that infected people in Hong Kong in 1997; and the development of laboratory methods to generate influenza A viruses by transfection of DNAs without a helper virus. Antiviral drugs that are directed at functions shared by all influenza A viruses constitute the best line of defense against a bioterrorist attack. Consequently, new antiviral drugs need to be developed, and the few currently available antiviral drugs should be stockpiled.
Publication Types: Review Review, Tutorial
PMID: 12615310 [PubMed - indexed for MEDLINE]

16: Brief Bioinform. 2003 Jun;4(2):133-49.
Comparative genomics tools applied to bioterrorism defence.
Slezak T, Kuczmarski T, Ott L, Torres C, Medeiros D, Smith J, Truitt B, Mulakken N, Lam M, Vitalis E, Zemla A, Zhou CE, Gardner S.
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Rapid advances in the genomic sequencing of bacteria and viruses over the past few years have made it possible to consider sequencing the genomes of all pathogens that affect humans and the crops and livestock upon which our lives depend. Recent events make it imperative that full genome sequencing be accomplished as soon as possible for pathogens that could be used as weapons of mass destruction or disruption. This sequence information must be exploited to provide rapid and accurate diagnostics to identify pathogens and distinguish them from harmless near-neighbours and hoaxes. The Chem-Bio Non-Proliferation (CBNP) programme of the US Department of Energy (DOE) began a large-scale effort of pathogen detection in early 2000 when it was announced that the DOE would be providing bio-security at the 2002 Winter Olympic Games in Salt Lake City, Utah. Our team at the Lawrence Livermore National Lab (LLNL) was given the task of developing reliable and validated assays for a number of the most likely bioterrorist agents. The short timeline led us to devise a novel system that utilised whole-genome comparison methods to rapidly focus on parts of the pathogen genomes that had a high probability of being unique. Assays developed with this approach have been validated by the Centers for Disease Control (CDC). They were used at the 2002 Winter Olympics, have entered the public health system, and have been in continual use for non-publicised aspects of homeland defence since autumn 2001. Assays have been developed for all major threat list agents for which adequate genomic sequence is available, as well as for other pathogens requested by various government agencies. Collaborations with comparative genomics algorithm developers have enabled our LLNL team to make major advances in pathogen detection, since many of the existing tools simply did not scale well enough to be of practical use for this application. It is hoped that a discussion of a real-life practical application of comparative genomics algorithms may help spur algorithm developers to tackle some of the many remaining problems that need to be addressed. Solutions to these problems will advance a wide range of biological disciplines, only one of which is pathogen detection. For example, exploration in evolution and phylogenetics, annotating gene coding regions, predicting and understanding gene function and regulation, and untangling gene networks all rely on tools for aligning multiple sequences, detecting gene rearrangements and duplications, and visualising genomic data. Two key problems currently needing improved solutions are: (1) aligning incomplete, fragmentary sequence (eg draft genome contigs or arbitrary genome regions) with both complete genomes and other fragmentary sequences; and
(2) ordering, aligning and visualising non-colinear gene rearrangements and inversions in addition to the colinear alignments handled by current tools.
PMID: 12846395 [PubMed - in process]

17: Clin Chem. 2003 Jul;49(7):1045-9.
Biological threat detection via host gene expression profiling.
Lin B, Vahey MT, Thach D, Stenger DA, Pancrazio JJ.
Center for Bio/Molecular Science & Engineering, Code 6900, Naval Research Laboratory, Washington, DC 20375, USA. blin@cbmse.nrl.navy.mil
With the increased threat posed by biological weapons, detection techniques for biothreat pathogens are critically needed to monitor and assess the severity of the illness once exposure has occurred. Current approaches for detecting biological threats are either time-consuming or highly specific but provide little information regarding pathogenicity. Genotyping of pathogens by PCR provides a fast and definitive means for identifying pathogens, but reliance on pathogen genotypic

endpoints has several limitations. Current progress in DNA microarrays technology provides an alternative way to address the issues faced by traditional detection systems through host gene expression profiles of peripheral blood cells. We discuss the advantages and critical issues facing the use of host gene expression profiling for biological threat detection.
Publication Types: Review Review, Tutorial
PMID: 12816899 [PubMed - indexed for MEDLINE]

18: Clin Infect Dis. 2003 Aug 1;37(3):467.
Smallpox vaccination after a bioterrorism-based exposure.
Bicknell WJ, James K.
Publication Types: Comment Letter
PMID: 12884184 [PubMed - in process]

19: Clin Infect Dis. 2003 Jul 1;37(1):150-1.
Comment on:
Clin Infect Dis. 2003 Feb 15;36(4):468-71.
Smallpox vaccination to combat bioterrorism.
Arya SC.
Publication Types: Comment Letter
PMID: 12830424 [PubMed - indexed for MEDLINE]

20: CMAJ. 2003 Jun 10;168(12):1517, 1519.
Censoring science.
[Article in English, French]
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Publication Types: Editorial
PMID: 12796312 [PubMed - indexed for MEDLINE]

21: Curr Opin Pulm Med. 2003 May;9(3):221-6.
Inhalational anthrax and bioterrorism.
Quintiliani R Jr, Quintiliani R.
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Until recently, inhalational anthrax was considered an infectious disease curiosity for medical specialists and veterinarians. This attitude abruptly changed following the intentional release of Bacillus anthracis spores via the US Postal Service in October 2001. Because of its rarity, few physicians were familiar with its clinical manifestations, treatment and prophylaxis. In this report, we try to fill this informational gap by reviewing these issues based on additional data culled from this recent bioterrorism-related epidemic. Moreover, we have purposely emphasized its clinical manifestations, searching for common findings that may alert the physician to suspect and rapidly diagnose this infection. To improve survival rates, prompt diagnosis of inhalational anthrax is crucial, since even a brief delay in therapy of this fulminating infection almost uniformly results in death.
Publication Types: Review Review, Tutorial
PMID: 12682568 [PubMed - indexed for MEDLINE]

22: Cutis. 2003 Apr;71(4):319-22.
Smallpox.
Dacko A, Hardick K, Yoshida T.
St. John's Institute of Dermatology, St Thomas' Hospital, London, Great Britain. annehardick@hotmail.com
With recent events, the threat of bioterrorism has become a reality. In late 2001, multiple cases of cutaneous and inhalation anthrax were spread through the US mail. On the front line were dermatologists who diagnosed the first cases of cutaneous anthrax in New York City. Since then, physicians who are unsure if they are facing a new form of bioterrorism frequently have consulted dermatologists to evaluate rashes. Because most biological weapons (anthrax, tularemia, plague, smallpox) can have cutaneous manifestations, dermatologists will continue to have an important role in evaluating these potential threats.
Publication Types: Review Review, Tutorial
PMID: 12729099 [PubMed - indexed for MEDLINE]

23: Diagn Microbiol Infect Dis. 2003 Jul;46(3):233.
Bioterrorism: Guidelines for Medical and Public Health Management. Henderson, D.A., Inglesby, T.V., and O'Toole, T., eds.; ASM Press, Chicago, 2002, 252 pages, $29.50, paperback ISBN 1-57947-280-X.
Balows A.
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Remarks of the Commissioner of Food and Drugs.
McClellan MB.
Food and Drug Administration (FDA), Rockville, MD, USA.
PMID: 12866552 [PubMed - indexed for MEDLINE]

25: Health Aff (Millwood). 2003 Jul-Aug;22(4):230-4.
Leveraging the nation's anti-bioterrorism investments: foundation efforts to ensure a revitalized public health system.
Hearne SA, Segal LM.
Trust for America's Health, Washington, DC, USA.
The emerging potential threats of bioterrorism combined with critical existing epidemics facing the United States call for immediate and urgent attention to the U.S. public health system. The foundation world is helping to answer that call and is sounding the alarm that our health defenses must be able to do "double duty" to protect us from the full spectrum of modern health threats. This Special Report presents a selective sample of recent and ongoing grant activities designed to revitalize and modernize the public health infrastructure, which is vital to protecting the nation's health and ensuring its safety.
PMID: 12889772 [PubMed - in process]

26: Infect Genet Evol. 2002 May;1(3):179-81.
The European Centre for Infectious Diseases: an adequate response to the challenges of bioterrorism and major natural infectious threats.
Tibayrenc M, Mas-Coma S, Piffaretti JC, Struelens M.

Publication Types: Editorial
PMID: 12798013 [PubMed - indexed for MEDLINE]

27: Infection. 2003 Mar;31(2):128-9.
Anthrax, botulism and tularemia in Italy.
Serraino D, Puro V, Bidoli E, Piselli P, Girardi E, Ippolito G.
Publication Types: Letter
PMID: 12749299 [PubMed - indexed for MEDLINE]

28: J Am Dent Assoc. 2003 Jun;134(6):745-52.
Bioterrorism and catastrophe response: a quick-reference guide to resources.
Han SZ, Alfano MC, Psoter WJ, Rekow ED.
Harvard School of Dental Medicine, Boston, USA.
BACKGROUND: Dentists' responses to catastrophe have been redefined by bioterrorism. Informed response requires accurate information about agents and diseases that have the potential to be used as weapons. METHODS: The authors reviewed information about the most probable bioterrorist weapons (those from the Center for Disease Control and Prevention's Category A) from the World Wide Web and print journals and distilled it into a resource list that is current, relevant to dentistry and noncommercial. The Web sites cited include those sponsored by federal agencies, academic institutions and professional organizations. The articles cited include those published in English within the last six years in refereed journals that are available in most higher education institutions. RESULTS: The authors present the information in a table that provides a quick-reference guide to resources describing agents and diseases with the greatest potential for use as weapons: anthrax, botulism, plague, smallpox, tularemia and viral hemorrhagic fevers. This article presents Web site and journal citations for background and patient-oriented information (fact sheets), signs and symptoms, and prophylactic measures and treatment for each of the agents and diseases. The table facilitates quick access to this information, especially in an emergency. This article also points out guidelines for response should a suspected attack occur. CONCLUSIONS: Armed with information about biological weapons, dentists can provide faster diagnosis, inform their patients about risks, prophylaxis or treatment and rethink their own role in terrorism response. CLINICAL IMPLICATIONS: Fast, accurate diagnosis limits the spread of exceptionally contagious diseases. Providing accurate information to patients minimizes misinformation and the associated public fear and panic that, unchecked, could overwhelm health care systems.
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Duck and cover: a prudent defense against smallpox.
Jeffcoat MK.
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Silvagni AJ.

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Though better prepared after 9/11, America still vulnerable to bioterrorism.
Nolen RS.
Publication Types: News
PMID: 12875435 [PubMed - in process]

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Publication Types: News
PMID: 12762371 [PubMed - indexed for MEDLINE]

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Quantitative determination of the hydrolysis products of nitrogen mustards in human urine by liquid chromatography-electrospray ionization tandem mass spectrometry.
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